

APPLICATION NO. 10/748,827  
AMENDMENT DATED February 1, 2005

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims**

Claims 1-20 (canceled).

Claim 21 (Currently Amended): A scanning probe microscope comprising:  
a stationary frame;  
a scanner supported by the stationary frame; and  
a kinematic mounting mechanism supported by the scanner, the kinematic mounting mechanism comprising three protrusions and at least one magnet, each of the three protrusions and said at least one magnet being located at a first side; and  
a chip mount having a hole, a slot and a flat surface, each of the hole, the slot and the flat surface being located at a second side;  
wherein when second side is sufficiently close to the first side, the chip mount is held by said at least one magnet of the kinematic mounting mechanism, and each of the hole, the slot and the flat surface contact one of the three protrusions in the kinematic mounting mechanism.

Claim 22 (Currently Amended): ~~The scanning probe microscope of Claim 21~~  
wherein: A scanning probe microscope comprising:  
a stationary frame;  
a scanner supported by the stationary frame; and  
a kinematic mounting mechanism supported by the scanner, the kinematic mounting mechanism comprising three protrusions and at least one magnet; and  
a chip mount having a hole, a slot and a flat surface;  
wherein the chip mount is held by said at least one magnet; and  
the scanner is mounted on a one dimensional translation stage, the one dimensional translation stage being attached to the stationary frame, the scanner being

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limited to linear motion in a direction of motion of the one dimensional translation stage;  
and

the scanning probe microscope further comprises a two dimensional flexure stage attached to the stationary frame and a sample chuck mounted on the two dimensional flexure stage, the sample chuck being movable by the two dimensional flexure stage only in a plane perpendicular to the direction of motion of the one dimensional translation stage.

Claim 23 (canceled).

Claim 24 (Currently Amended): ~~The scanning probe microscope of Claim 24~~  
wherein: A scanning probe microscope comprising:

a stationary frame;

a scanner supported by the stationary frame;

a kinematic mounting mechanism supported by the scanner, the kinematic mounting mechanism comprising three protrusions and at least one magnet;

a chip mount having a hole, a slot and a flat surface, wherein the chip mount is held by said at least one magnet; and

a signal line supported by the kinematic mounting mechanism;

wherein at least one of the three protrusions comprises a conductive material and is in electrical contact with said signal line.

Claim 25 (Original): The scanning probe microscope of Claim 24 wherein:  
each protrusion comprises a ball.

Claim 26 (Original): The scanning probe microscope of Claim 25 wherein:  
said conductive material is stainless steel; and  
two balls comprise ruby.

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Claim 27 (Original): The scanning probe microscope of Claim 26 wherein:  
said ball comprising stainless steel has a height lower than said two balls  
comprising ruby; and  
the height of the magnets is lower than each ball.

Claim 28 (Original): The scanning probe microscope of Claim 27 wherein:  
the heights of the three balls and the magnet are such that only the balls make  
contact with the chip mount while the magnet does not contact the chip mount.

Claim 29 (Original): The scanning probe microscope of Claim 26 wherein:  
said ball comprising stainless steel is in contact with said flat surface.

Claim 30 (Original): A scanning probe microscope comprising:  
a stationary frame;

a z scanner mounted on a one dimensional translation stage, the one dimensional  
translation stage being attached to the stationary frame, the scanner being limited to linear  
motion in a direction of motion of the one dimensional translation stage, a kinematic  
mounting mechanism supported by the z scanner, the kinematic mounting mechanism  
comprising three balls and a pair of magnets, and a chip mount having a hole, a slot and a  
flat surface, wherein the chip mount is attached to the kinematic mounting mechanism by  
the pair of magnets; and

a two dimensional flexure stage attached to the stationary frame and a sample  
chuck mounted on the two dimensional flexure stage, the sample chuck being movable by  
the two dimensional flexure stage only in a plane perpendicular to the direction of motion  
of the one dimensional translation stage.

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**Claim 31 (Original):** The scanning probe microscope of Claim 30 wherein:  
the heights of the three balls and the magnets are such that only the balls make  
contact with the chip mount while the magnet does not contact the chip mount.

**Claim 32 (Original):** The scanning probe microscope of Claim 31 further  
comprising:  
a signal line supported by the z scanner;  
wherein one ball is in electrical contact with said signal line also contacts said flat  
surface while two balls other than said one ball contact said chip mount at said hole and  
said slot.

**Claim 33 (Original):** The scanning probe microscope of Claim 32 wherein:  
said one ball comprises stainless steel; and  
said two balls comprise ruby.

**Claim 34 (Original):** The scanning probe microscope of Claim 30 wherein:  
said magnets are mounted in opposite polarity.

**Claim 35 (New):** The scanning probe microscope of Claim 21 wherein:  
the heights of the three protrusions and said at least one magnet are such that only  
the protrusions make contact with the chip mount while said at least one magnet does not  
contact the chip mount.

**Claim 36 (New):** The scanning probe microscope of Claim 21 wherein:  
one protrusion comprises stainless steel and two protrusions comprise ruby.

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Claim 37 (New): The scanning probe microscope of Claim 22 wherein:  
the heights of the three protrusions and said at least one magnet are such that only  
the protrusions make contact with the chip mount while said at least one magnet does not  
contact the chip mount.

Claim 38 (New): The scanning probe microscope of Claim 22 wherein:  
one protrusion comprises stainless steel and two protrusions comprise ruby.

Claim 39 (New): The scanning probe microscope of Claim 24 wherein:  
the heights of the three protrusions and said at least one magnet are such that only  
the protrusions make contact with the chip mount while said at least one magnet does not  
contact the chip mount.

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